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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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WILLIAM S. LIGHTBODY
LIGHTBODY LAW OFFICE
ATRIUM SUITE 100
32600 FAIRMOUNT BLVD.
PEPPER PIKE, OH 44124

EXAMINER

KRAMER, DEVON C

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/073,520

Applicant(s)

DAIGRE, RICHARD

Examiner

Devon C Kramer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

- 1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 2) Claim 35 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 35 recites the limitation "device". This limitation is indefinite because a device can be any number of parts.

Applicant's claim 35 is extremely broad and is capable on reading on hundreds of classes throughout the office. The examiner recommends that applicant amend the claims to clearly claim what applicant deems the invention.

Claim Rejections - 35 USC § 102

- 3) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 4) Claims 1-3, 6, 9-14, 16-21 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Bigo et al (GB 2123502).

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In re claims 1 and 35, Bigo et al provides a selectively engagable friction mechanism (figure 1) comprising two parts and a housing (2), one of which two parts (1) is rotatable in respect to the other and the housing, at least two friction disks (12, 13), one of the two friction disks being non-relatively connected to one of the two parts, the other of said two friction disks being non-relatively connected to the other of the two parts, said one of said two friction disks having a single cross-section, said one of said two friction disks having a surface, said surface being hardened: a disk spring (18), said disk spring biasing said one of said two friction disks in one engagement condition in respect to said other of said friction disks, a piston (10), said piston being in direct contact with one of said two friction disks, and engagement means (25) to move said piston against the bias of said disk spring so as to place said two friction disks in another differing engagement condition. Please note that the friction disks are all hardened to some extent to extend their service life.

In reference to claim 2, Bigo et al provides a selectively engagable friction mechanism characterized by the addition of attachment means to non-relatively connect said one or said other part to the housing such that said engagement means functions as a brake for said other or said one part respectively. Please note that Bigo et al inherently has some attachment means to attach the disks to the non-rotatable portion though it is not labeled in the drawings.

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In reference to claim 3, Bigo et al provides a selectively engagable friction mechanism of characterized in that both of the two parts are relatively connected to the housing such that said engagement means functions as a clutch between the two parts.

In reference to claim 6, Bigo et al provides a mechanism characterized in that there are five or more friction disks (figure 1).

In re claims 9 and 16, Bigo et al provides a selectively engagable friction mechanism comprising two parts and a housing (2), one of which is rotatable in respect to the other and the housing, at least two friction disks, one or said two friction disks being non-rotatively connected to one of the two parts, the other of said two friction disks being non-rotatively connected to the other of the two parts, said one of said two friction disks having a single cross-section, said one of said two friction disks having a surface, said surface being hardened, engagement means to engage said one with said other of said two friction disks so as to connect the two parts, said engagement means includes a piston (10), said piston being located in a cavity, said cavity being located in the housing adjacent to the friction disks, said piston being in direct physical contact with said one of said two friction disks, said piston being moveable between actuated and non-actuated positions relative to said friction disks; a bias assembly (18), said bias assembly engaging said piston and said housing and including a single disk spring, said single disk spring being in physical contact with both said housing and said piston, said bias assembly biasing said piston into one of said actuated non-actuated positions and

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a pressurization means (25) said pressurization means moving said piston into the other of said actuated or non-actuated positions.

In reference to claims 10 and 17, Bigo et al provides a mechanism characterized in that said spring has an inner edge and an outer edge, said inner edge contacting either of said piston or said housing, and said outer edge contacting the other of said piston or said housing (figure 1).

In reference to claims 11 and 18, Bigo et al provides a mechanism characterized in that the spring is a Belleville spring.

In reference to claims 12 and 19, Bigo et al provides a mechanism characterized in that at least one washer is located intermediate between said spring and said housing.

In reference to claims 13-14 and 20-21, Bigo et al provides a mechanism characterized in that said actuated position is synonymous with the brake being engaged or disengaged, depending on what applicant deems as engaged or disengaged.

In reference to claim 24, Bigo et al provides a mechanism characterized in that said shaft is interconnected to a drive mechanism.

Claim Rejections - 35 USC § 103

5) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6) Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bigo et al (GB 2123502) in view of Kumagai et al (5701976).

Bigo et al lacks the teaching of a multi-disk brake used in a transmission.

Kumagai et al teaches the use of a multi-disk brake used in an environment including a planetary device having a sun gear, planet gears with a carrier and a ring gear characterized in that a part of the two parts coincides with a gear or carrier of the planetary device.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the multi-disc brake of Bigo et al in the environment as taught by Kumagai merely to provide an alternate environment of use for the brake, that of which is known in the art and to provide an efficient means to transfer power between components.

7) Claims 7-8, 15, 22-23, 25-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bigo et al (GB 2123502) in view of Naumann et al (6302246).

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For the further limitations of claims 25-28 and 31-32, please refer to the 102 rejection above. Bigo et al lacks the teaching of an anodized surface or an oxide ceramic.

Naumann (6302246) teaches a surface that is hard anodized and a surface that is coated by a complex oxide ceramic

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the friction surfaces of Bigo et al with the treated surfaces as taught by Naumann because it is common in the art to treat friction surfaces in order to improve their wear properties.

8) Claims 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bigo et al (GB 2123502) in view of Naumann et al (6302246).

Both Bigo et al and Naumann et al lack the teaching of a bearing.

In reference to claims 33-34, Pringle provides a mechanism having a shaft and a bearing, there being a movable part surrounding the shaft, the improvement means for the movable part to contact the bearing to provide a bearing stop.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the brake mechanism of Bigo et al as modified by Pringle

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with a bearing as taught by Pringle merely to provide a housing around the entire device to protect it from contaminants.

Conclusion

9) The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lu, Case et al, White, Cunningham et al, and Tibjander all provide multi-disk brakes biased by a spring.

10) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devon C Kramer whose telephone number is 703-305-0839. The examiner can normally be reached on Mon-Fri 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DK

Handwritten signature and date 1/6/05.